A STUDY OF LIPID PROFILE IN ANEMIA

Introduction:

Anemia is a chronic nutritional health problem in India. Though there are plenty of causes for anemia, iron deficiency anemia is the most common cause of anemia in India. As we all know Elevated serum lipids have a significant correlation with the risk of atherosclerosis which in turn causes coronary artery disease, cerebrovascular disease & peripheral vascular disease, thus increasing morbidity & mortality worldwide. But in the same way, low level of lipids in serum also cause some serious illness like depression, cancers, hemorrhagic stroke, aortic dissection and other metabolic abnormalities. Anemia, irrespective of its cause produce decrease in serum lipid levels, through various mechanisms. This study is conducted to assess the lipid profiles in various types of anemias.

Aims and objectives:

To study Lipid profile of anaemic patients as compared with age & sex matched controls. To correlate if type of anaemia has any effect on lipid profile. And to study if severity of anaemia is associated with changes in various lipid subfractions.

METHODOLOGY

This is a study which has been carried out in the Department of Internal Medicine, TMCH,Thanjavur, from jan 2016 to june 2016.

Source of Data

The data for this study was collected from patients who presented to TMCH,Thanjavur either on inpatient or outpatient basis.

Sample Size

50 cases, 50 controls.

Results:

Cases younger than 50 years were found to be more likely to have severe anemia. Fatigue and pallor were the most common clinical features. Clinical features were more common among cases with severe anemia.

The mean serum total cholesterol levels were significantly lower ($P<0.01$) in cases (130.2 mg/dl) as compared to controls (172.4 mg/dl). The effect of anaemia on the total cholesterol levels was very large.

The mean serum HDL levels were significantly lower ($P<0.01$) in cases (30.0 mg/dl) as compared to controls (38.9 mg/dl). The effect of anaemia on the HDL levels was large.

The mean serum LDL levels were significantly lower ($P<0.01$) in cases (78.7 mg/dl) as compared to controls (111.1 mg/dl). The effect of anaemia on the LDL levels was very large.

The mean serum VLDL levels were significantly lower ($P<0.01$) in cases (20.6 mg/dl) as compared to controls (24.0 mg/dl). The effect of anaemia on the VLDL levels was mild.

The mean serum triglyceride levels were significantly lower ($P<0.01$) in cases (109.1 mg/dl) as compared to controls (123.5 mg/dl). The effect of anaemia on the triglyceride levels was mild.

The mean total cholesterol / HDL ratio was significantly lower ($P<0.05$) in cases (4.34) as compared to controls (4.43). The effect of anaemia on TC/HDL ratio was mild.

The mean LDL / HDL ratio was significantly lower ($P<0.01$) in cases (2.6) as compared to controls (2.85). The effect of anaemia on LDL/HDL ratio was mild.

There was aa larger reduction in mean total cholesterol, HDL, LDL, VLDL, and triglyceride levels, alon with TC/HDL and LDL/HDL ratios with increased severity of anemia ($P<0.05$). Type of anemia did not have a significant effect on lipid levels($P>0.05$).

Conclusion:

Majority of cases with anaemia were in the age group of 30-60 years. Younger cases were more likely to have more severe anaemia. There was no relation between sex and severity of anaemia. Dimorphic anaemia was the most commonly seen type of anaemia. Most cases had mild to moderate anaemia. The most common presenting symptom was fatigue. Patients with severe anaemia were more likely to be symptomatic. Vegetarians were more likely to have more severe anaemia. Pallor was the most common finding on general physical examination. Cases with more severe anaemia were more likely to have findings on general physical examination.

The mean pulse rate was higher in cases. The mean pulse rate was higher in cases with severe anaemia. The mean blood pressure and BMI were lower in cases with severe anaemia. The most common findings on systemic examination were venous hum and flow murmurs. Features suggestive of hyperdynamic state of circulation and congestive cardiac failure were only seen in cases with severe anaemia.

The mean total cholesterol, HDL, LDL, VLDL and triglyceride levels, along with TC/HDL and LDL/HDL ratios were significantly decreased in cases compared to controls.There was a larger reduction in mean total cholesterol, HDL, LDL, VLDL and triglyceride levels, along with TC/HDL and LDL/HDL ratios with increased severity of anaemia. The type of anaemia did not have a significant effect on the mean lipid levels.